

coronary arteriography should be the potential benefit to the patient. These may be improved medical management whether medicinal, dietary, or perhaps change in overall life style. The other benefits include immediate surgical improvement of disabling and potentially mortal disease. Several present-day surgical series suggest profound improvement in symptoms and return to normal activity. It remains to be seen how long the improvement lasts in the large number of patients operated upon.

One must, therefore, critically assess the indications, risks, and potential benefits to each patient individually before submitting him to coronary arteriography.

JAMES F. SILVERMAN, M.D.

REFERENCES

Sheldon WC, Grinfeld L: Direct myocardial revascularization: Venous autograft technique—Postoperative assessment. *Surg Clin N Amer* 51:1043-1049, Oct 1971

Chatterjee K, Swan HJC, Parmley WW, et al: Depression of left ventricular function due to acute myocardial ischemia and its reversal after aortocoronary saphenous-vein bypass. *N Engl J Med* 286:1117-1122, May 1972

Efficacy Studies:

Skull Radiography in Head Trauma

The role of skull roentgenograms in management of head trauma has been critically reviewed. Fractures are demonstrated in a small percentage and only rarely does the presence of fracture, by itself, modify treatment.

Fractures were demonstrated in 6.2 percent of 1500 patients of all ages (Seattle, 1969-70) and were pertinent to treatment (antibiotics for basal fracture, elevation or removal of depressed fragments) in 28 of the 93 patients.

Fractures were demonstrated in 8.6 percent of 570 children (Kansas City, 1969). The type and location of fracture had no important bearing on symptoms, physical findings, treatment or the need for hospitalization. Involvement of the middle meningeal groove or sagittal sinus was not significantly related to concussion, severe symptoms or subdural hematoma. The mere presence of fracture affected treatment in two of forty-nine patients.

The cranial contents may sustain severe injury within an intact skull, and bone injury seldom affects treatment. Skull radiography is requested

more out of habit and concern over possible medico-legal implications than as a specific guide to treatment. More critical appraisal could result in substantial savings of time, money and radiation exposure without jeopardizing patient care.

VERNON R. GEE, M.D.

REFERENCES

Bell RS, Loop JW: The utility and futility of radiographic skull examination for trauma. *N Engl J Med* 284:236-239, Feb 1971

Roberts F, Shopfner CE: Plain skull roentgenograms in children with head trauma. *Amer J Roentgenol* 114:230-240, Feb 1972

Coronary Arteriography in Acute Myocardial Infarction

Previously it has been recommended that left heart catheterization and coronary arteriography not be performed less than three to four months after acute myocardial infarction. However, recently several institutions have successfully undertaken coronary arteriography in critically ill patients with acute myocardial infarction. It is now realized that recent myocardial infarction is only a relative contraindication to coronary arteriography and that if a patient's condition is critical enough to warrant surgical intervention, coronary arteriography may be relatively safely undertaken.

J. H. GROLLMAN, JR., M.D.

REFERENCES

Cohn LH, Fogarty TJ, Daily PO, et al: Emergency coronary artery bypass. *Surgery* 70:821-829, Dec 1971

Sustaita H, Chatterjee K, Matloff JM, et al: Emergency bypass surgery in impending and complicated acute myocardial infarction. *Arch Surg* 105:30-36, Jul 1972

Asbestosis—Diaphragmatic Pleural Calcification

Isolated calcifications limited to the diaphragmatic pleural surface can occur after a latent period of approximately 20 years, following only a brief period of occupational exposure to asbestos. Asbestos is used commercially in approximately three thousand items and the general contamination of the urban atmosphere by asbestos

is now a matter of public concern. Furthermore there is also an increased incidence of pleural and peritoneal mesotheliomas, bronchogenic carcinomas, and gastrointestinal neoplasms occurring from 24 to 53 years after the initial exposure to asbestos dusts.

When diaphragmatic pleural calcifications are found, particularly bilaterally, with no other evidence of pleural thickening or interstitial disease, and no evidence or history of trauma or infection, exposure to asbestos dust should be considered the etiologic factor. It is incumbent upon the radiologist to suggest the diagnosis of pulmonary asbestosis and to press for a detailed occupational history.

E. NICHOLAS SARGENT, M.D.

REFERENCES

- Sargent EN, Jacobson G, Wilkinson EE: Diaphragmatic pleural calcification (following short occupational exposure to asbestos). *Amer J Roentgenol* 115:473-478, Jul 1973
- Selikoff IJ, Churg J, Hammond EC: Asbestos exposure and neoplasia. *JAMA* 188:22-26, Apr 1964
- Selikoff IJ: The occurrence of pleural calcification among asbestos insulation workers. *Ann NY Acad Sci* 132:351-367, 1965

Hodgkin's Lymphomas Revisited

Gilbert, and later Peters, realized the advantage of radiating contiguous, clinically uninvolved lymph nodes as prophylactic therapy in Hodgkin's disease management. Recently, "contiguity" has been extended to include spread via the thoracic duct in either direction. Megavoltage radiation therapy units paved the way for use of large radiation fields because these units could deliver a uniform flat field of radiation exposure with precise cutoff at the margins and with minimal skin and systemic reactions. A total-nodal approach to radiation therapy of Hodgkin's disease paralleled the development of megavoltage equipment. In this technique, all major lymphoid pathways of dissemination are prophylactically treated. Treatment fields are carefully shaped to include all primary node systems, while excluding normal uninvolved tissue. Bone marrow in the axial skeleton is shielded whenever possible to preserve production of blood-forming elements. Preservation of a small percent of bone marrow reserve may become crucial if the patient must receive subsequent chemotherapy. Randomized clinical trials at Stanford, under Dr. Henry Kap-

lan, have demonstrated increased survivals for each stage of disease following total-nodal radiation therapy. The overall five-year survival for all stages of disease as of October 1971, was 78 percent. The five-year relapse-free survival rate for Stage I and IIA was 90 percent.

Abdominal exploration with splenectomy and biopsy of liver and para-aortic nodes gives accurate staging as well as valuable prognosis. Evidently lack of splenic involvement means lack of liver involvement. Splenectomy plus multiple liver and node biopsy helps the radiotherapist to establish radiation ports and assists the hematologist in determining the advisability of chemotherapy. Splenectomy also helps the radiotherapist avoid complicating radiation nephritis in the left kidney.

JUDITH HARRISON, M.D.

REFERENCES

- Kaplan HS: Clinical evaluation and radiotherapeutic management of Hodgkin's disease and the malignant lymphomas. *N Engl J Med* 278: 892-899, Apr 1968
- Ultman JE: Clinical feature and diagnosis of Hodgkin's disease. *Cancer* 19:297-307, Mar 1966
- Rosenberg SA, Kaplan HS: Hodgkin's disease and other malignant lymphomas. *Calif Med* 113:23-38, Oct 1970

Physiology and Significance of the Prolonged Nephrogram

The nephrogram phase during intravenous urography refers to the radioopacity of the renal tissue exclusive of the calyces and renal pelvis. The nephrogram is usually most intense during the first five minutes following injection of the contrast material, with subsequent progressive decrease in intensity over the next several hours.

An abnormally prolonged intense nephrogram is frequently observed in patients with obstructive uropathy. Recent experimental evidence suggests that glomerular filtration continues at a reduced rate, even in the presence of complete obstruction. Continued filtration of contrast material in the face of tubular resorption of salt and water probably accounts for the prolonged intensified nephrogram that is observed.

A prolonged nephrogram is also obtained when intravenous urography is performed in a patient with systemic hypotension. The mechanisms involved may be similar to those postulated for the obstructive nephrogram; a decidedly reduced